

Industry Update

September/October 2021

[BerlinPackaging.com](https://berlinpackaging.com) • 1.800.2.BERLIN

Resins & Raw Materials

Resins & Raw
Materials

Post-Consumer Recycled
(PCR) Plastic Resins

Ocean
Freight

Domestic
Transportation

Although Berlin Packaging cannot control the price of raw materials, we offer services to help our customers **Package More Profit®**. Over the last three years, Berlin Packaging has added more than \$240 million in profit to our customers as a unique benefit of doing business with us.

Pricing for plastic resins and other packaging raw materials remains at a premium due to strong demand, limited and inconsistent supplies, rising labor costs, higher shipping rates, and other inflationary pressures.

Plastic Resins

Several market factors continue to buoy the cost of most plastic resins. With robust demand and tight supplies, producers are not in a position to take on any further disruption. This is particularly concerning as we head into peak hurricane season. Here's a brief rundown of market conditions for various resins:



PET (Polyethylene Terephthalate):

Demand for PET remains strong. Supply has improved but is limited due to feedstock issues and unplanned shutdowns. Imports are costly. These factors have boosted PET prices.



PP (Polypropylene):

The PP market continues to be tight, resulting in higher prices. The market is expected to balance later this year, barring any unforeseen circumstances.



HDPE/MDPE/LDPE (Polyethylene):

Supply is limited due to planned and unplanned plant outages. HDPE blow and injection grades remain the tightest, followed by LDPE.



PS (Polystyrene):

Although PS supply continues to improve, an increase in styrene raw material costs is pushing up the price of PS resins.



PVC (Polyvinyl Chloride):

Strong demand and limited supply in the market have resulted in increased PVC prices.




Resins & Raw Materials

Resins & Raw
Materials

Post-Consumer Recycled
(PCR) Plastic Resins

Ocean
Freight

Domestic
Transportation



In response to tight glass supplies domestically, Berlin Packaging has identified and partnered with glass producers around the globe to source additional glass capacity. Contact your Packaging Consultant or call 1.800.2.BERLIN to learn more about our glass packaging capabilities.

Glass

Tight supplies of glass containers, higher ocean freight rates for imported glass, and increased operating costs continue to push prices upward.

Aluminum

Raw material increases are elevating prices of aluminum beverage cans and ends. Tight supplies of aluminum combined with increased demand in the packaging, automotive, and construction industries are propelling aluminum rates near record levels.



Aluminum prices are nearing record rates.



Pulp & Paper

Because of its primary role in the manufacture of numerous paper grades, market pulp is a critical global commodity within the pulp & paper industry. Market pulp prices are prone to volatility, and 2021 has seen kraft pulp prices rise nearly 70% in the first six months. Prices for linerboard and corrugated packaging are also up this year.

Post-Consumer Recycled (PCR) Plastic Resins

Resins & Raw
Materials

Post-Consumer Recycled
(PCR) Plastic Resins

Ocean
Freight

Domestic
Transportation



Research has shown that PCR resins offer significant greenhouse gas and energy use reductions over virgin plastic resins.

Consumer preferences for sustainable packaging, consumer packaged goods (CPG) companies' commitments to increase the recyclability and recycled content of their packaging, and legislation mandating greater amounts of recycled content in packaging are boosting the demand of post-consumer recycled (PCR) resin in plastic packaging. However, the supply of PCR is not keeping pace because of inadequate recycling rates and an undercapitalized infrastructure.

Market Drivers

Shoppers covet sustainable products, and nearly 75% of them are willing to pay more for sustainable packaging. Consumers support brands that align with their values and are demanding sustainability as a key brand attribute.

In response to consumer demand and shareholder pressure, many CPG companies – including Unilever, Danone, and PepsiCo – have made public declarations that their packaging will contain 25% PCR by 2025. Retail giants Walmart and Target have made commitments to use 20% PCR in their store brand packaging by 2025.

In California, plastic beverage bottles are required by law to contain 15% PCR by 2022, 25% PCR by 2025, and 50% by 2030. Washington state's recycled content packaging law mandates that most beverage bottles contain 15% PCR by 2023, 25% by 2026, and 50% by 2031. Household cleaning and personal care products are required to contain 15% PCR by 2025, 25% by 2028, and 50% by 2031. Similar recycled content legislation is being considered in other states and at the federal level.



Post-Consumer Recycled (PCR) Plastic Resins

Resins & Raw
Materials

Post-Consumer Recycled
(PCR) Plastic Resins

Ocean
Freight

Domestic
Transportation

As your business partner, Berlin Packaging starts with a robust and holistic analysis to determine your product's environmental impact. Armed with this in-depth data, we then evaluate the impacts of alternative designs to uncover the best packaging options that deliver on performance and advance your sustainability strategy.

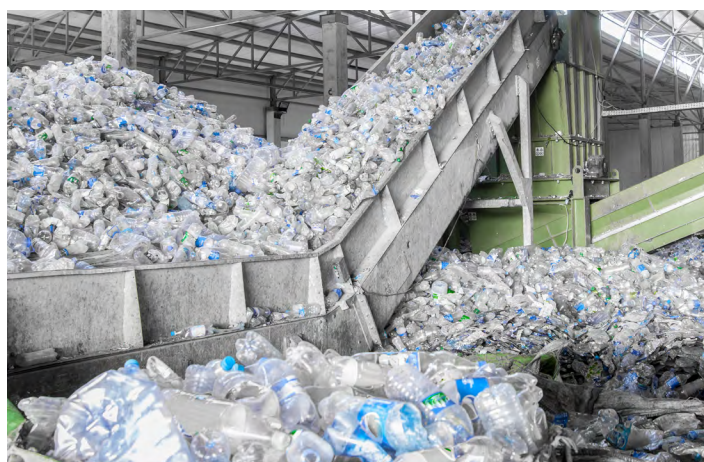
Production and Capacity

In the United States, HDPE and PET (referred to as rHDPE and rPET) are the two most common PCR resins. **Recycling rates for both HDPE and PET are around 30%.** At material recovery facilities (MRFs), PET is valued for its transparency and clarity. Thus, only clear and transparent light blue PET are considered recyclable. Colored or opaque PET reduces its value, and therefore it is not recycled. MRFs prize natural HDPE (e.g., milk jugs), but they will accept different colors.

PCR resins are produced by one of two methods – mechanical recycling or advanced (chemical) recycling. During mechanical recycling, separate streams of post-consumer HDPE and PET are ground, washed, sorted, melted, and pelletized. Advanced recycling can process different types of plastic to produce hydrocarbons and monomers that can be used to create new plastics.

End Markets

The packaging industry uses less than 50% of the market for post-consumer plastic resins. Bottles and thermoforms account for about 50% of the rPET supply, while fiber (e.g., carpeting, apparel, wipes) represents 41% of the rPET market.



At MRFs, PET is valued for its transparency & clarity.

Non-food containers consume 37% of the rHDPE supply, followed by pipe at 33%, decking at 8%, automotive at 7%, lawn & garden at 7%, and film/sheet at 3%. Since virtually every industry is embracing sustainability, the demand for PCR from all of the various end markets will continue to grow and compete with the needs of the packaging sector.



Post-Consumer Recycled (PCR) Plastic Resins

Resins & Raw
Materials

Post-Consumer Recycled
(PCR) Plastic Resins

Ocean
Freight

Domestic
Transportation

Berlin Packaging presented our customers with sustainable packaging options offering 3.7 million kilograms of greenhouse gas emissions reductions in one quarter alone. Annually, these environmental benefits equate to removing more than 800 passenger vehicles from the road or preserving more than 4,000 acres of forest.

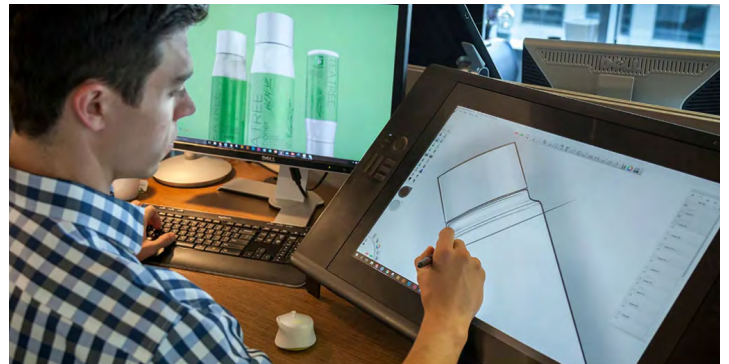
Challenges Ahead

Supplies of PCR resins are constrained due to high demand and limited capacity, especially food-grade resins. To meet the stated PCR demands of CPG packaging by 2025 and beyond, the PCR value chain will require greater capital investment and a robust infrastructure to significantly increase raw material collection, reprocessing capacity, product quality, and continuity of supply.

It is estimated that PET reclamation capacity would need to increase by 50% at a minimum to meet current CPG company commitments for rPET packaging.

Historically, PCR resins were priced 10% to 15% above virgin resins. This pricing changed dramatically a few years ago when demand surged for PCR from CPG companies. Today, PCR possesses price premiums that are two and sometimes three times higher than virgin materials.

Unlike the sourcing of virgin resins, CPG brands, converters, and suppliers must work as a team to invest and build a viable infrastructure for PCR capacity. While long-term partnerships will help to ensure a steady supply of post-consumer recycled resins, end-of-life must be addressed at the very beginning with product design. Currently, about 30% of plastic packaging will never be reused or recycled without fundamental redesign or innovation.



Ocean Freight

Resins & Raw
Materials

Post-Consumer Recycled
(PCR) Plastic Resins

Ocean
Freight

Domestic
Transportation



Berlin Packaging is proactively negotiating with our global suppliers to offset shipping price hikes and is leveraging our carrier partnerships to diversify traditional supply chain models and find ways to mitigate transportation delays.

Amid annual peak freight season and a global economic recovery, most international trade lanes continue to be pummeled by stubborn demand, insufficient capacity, port congestion, shipment delays, and other hurdles, resulting in historic ocean freight surcharges.

As North America continues to purchase goods at heightened pandemic levels, there appears to be no slowdown in sight for ocean freight demand from

North America — at least through 2021, with many experts predicting well into 2022.

Global supply chains are choked with shipments piling up on factory floors in Asia, COVID-19 outbreaks slowing or shuttering port and manufacturing operations in China and Southeast Asia, and overburdened transportation systems in North America.

Port Congestion

Peak season is putting additional strains on many already clogged ports in North America. Recent ship wait times are running a minimum of 5–11 days for Los Angeles/Long Beach (LA/LB), 4–6 days for Savannah, and 1–3 days for New York. The number of ships waiting at anchor in LA/LB has exceeded the record levels achieved in January and February. But that's only part of the problem. Los Angeles/Long Beach is experiencing terminal dwell times of 6–14 days and rail dwell times of 3–11 days.

As more containers enter North America each day, port terminal dwell times are increasing and adjacent warehouse space is filling up. Rail networks and hubs cannot handle the enormous volumes, and there are not enough trucks and drivers to efficiently move the goods.

Tight container supplies globally — combined with lengthy ship wait times and prolonged container dwell times in North America — are decreasing the availability of containers, especially in Asia.

COVID-19 outbreaks in China and Southeast Asia are further disrupting supply chains. In August, Ningbo, a large port south of Shanghai, had to shut down a major container terminal due to a single worker testing positive for the coronavirus. Based on the learnings from the Yantian port closure in May, the congestion and delays that are impacting Ningbo and surrounding ports will probably last many weeks or even months. Shipment times and costs are likely to increase.

Ocean Freight

Resins & Raw
Materials

Post-Consumer Recycled
(PCR) Plastic Resins

Ocean
Freight

Domestic
Transportation

Through our partnerships with 1,700+ suppliers, Berlin Packaging's Supply Chain team can source lower-cost domestic and international packaging options to present cost-effective alternatives to our customers.

Inventory Fulfillment

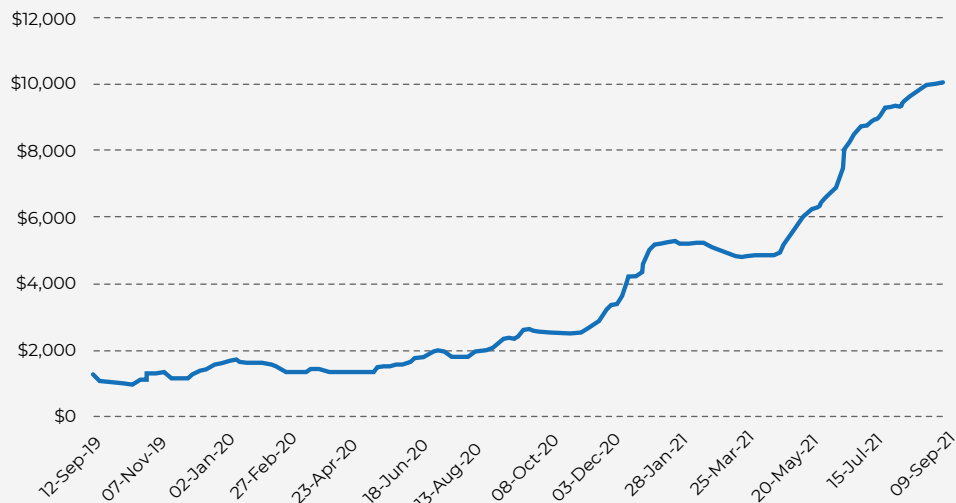
According to the National Retail Federation (NRF), August retail imports were expected to increase 12.6% year-over-year, representing the largest number of containers imported in a single month since the NRF began tracking this data in 2002. Some of these imports will be fall-related supplies. Retailers are also pushing to garner merchandise for back-to-office apparel and the year-end holiday season and restock low inventories.

Spot Market Prices

Spot rates for the Trans-Pacific lane (Asia to North America) continue to break records as demand far exceeds available capacity. Spot rates, which have been dominated by premium prices, from Asia to the West Coast are consistently fetching \$17,000 per 40-ft container — a 450% increase year-over-year. Even at these rates, freight is still not guaranteed to move consistently. Other global lanes face space and capacity issues, leading to higher spot rates.

World Container Index - Assessed by Drewry

\$ per 40 ft container



Source: Drewry.co.uk, World Container Index - 9 Sep

Domestic Transportation

Resins & Raw
Materials

Post-Consumer Recycled
(PCR) Plastic Resins

Ocean
Freight

Domestic
Transportation



Berlin Packaging's commitment to managing costs and finding the most cost-effective solutions ensures our customers maintain a competitive position in their respective marketplaces.

The cost to ship goods in North America remains historically high because of strong freight demand, a stagnant driver pool, chassis and container equipment constraints, and elevated fuel costs. Inflation is another concern that may exacerbate transportation costs.



The limited pool of truck drivers continues to constrain capacity expansion.

Truckload

Costs per mile for dry van spot market shipments are averaging around \$3.00. Rates have remained elevated but fairly steady throughout July and August. On a regional basis in the U.S., rates are highest in the Northeast, followed by the Southeast, Midwest, West, and Southwest. In mid-August, weekly shipments were up 20% compared to the same period last year.

Retailers' inventory-to-sales ratios continue their freefall, hitting 1.08 in June. That number equates to about one month of inventory. Sales growth is outpacing inventory replenishment. Many businesses are facing a two-fold problem – stocking store shelves and restocking warehouses. Building inventories boosts the demand for transportation services.

Fuel costs have risen 66 cents a gallon since the beginning of the year. Diesel is averaging \$3.37 per gallon.



Diesel
Costs

Jan.
2021

\$2.71 per gallon

Sept.
2021

\$3.37 per gallon

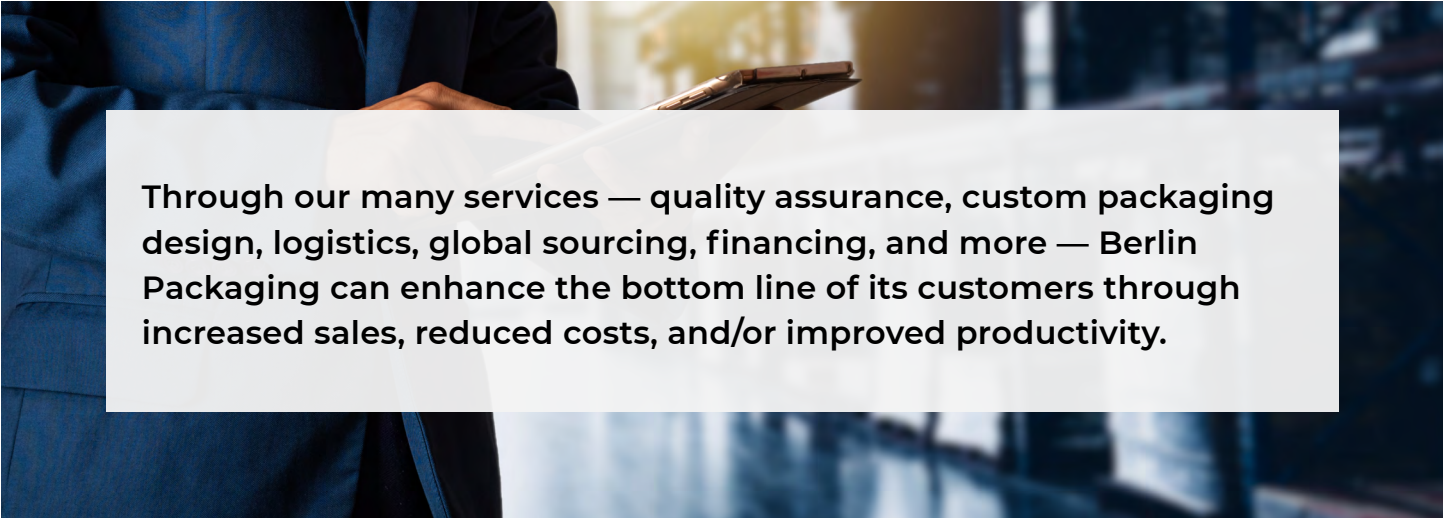
Domestic Transportation

Resins & Raw
Materials

Post-Consumer Recycled
(PCR) Plastic Resins

Ocean
Freight

Domestic
Transportation



Through our many services — quality assurance, custom packaging design, logistics, global sourcing, financing, and more — Berlin Packaging can enhance the bottom line of its customers through increased sales, reduced costs, and/or improved productivity.

Less-Than-Truckload (LTL)

LTL freight volumes typically follow manufacturing activity. As manufacturing output and e-commerce shipments continue to surge, LTL volumes will remain high. The average shipment weight is above normal. Most carriers are handling 3,000 to 6,000 shipments per day over capacity.

Americans typically spend 68–70% of their dollars on services and 30–32% on goods. Forced to stay home in 2020 due to the pandemic, consumers

increased their purchases of goods to 34%. That spending was expected to decline this past spring as vaccinated consumers returned to restaurants and movie theaters. But the number actually rose to 35% in March and may settle at 34% for 2021. If that holds true, the demand for goods will continue to overwhelm transportation capacity.

Parcel

This fall, major parcel carriers plan to implement price surcharges to handle peak volumes for the upcoming holiday shopping season. During peak shopping, demand is expected to exceed capacity by 5 million parcels per day.

Retail e-commerce sales in the U.S. reached \$222 billion in the 2nd quarter of 2021 — a 9% jump from the 2nd quarter of 2020 and a 3% increase over the 1st quarter of 2021. Online purchases represent 13% of total retail sales.





We Believe Anything is Possible®

With over 100 years in the packaging industry, more than 1,500 packaging professionals and a global network of suppliers and warehouses, we offer 50,000+ SKUs of plastic, glass, and metal containers, closures, and dispensing systems across all markets for customers just like you.

Our Business Model

Berlin Packaging is not a distributor. We're not a manufacturer. And we're not a packaging consultancy. Instead, we're all three at the same time. We are best-of-breed amongst manufacturing, distribution, and value-added service providers. We are the world's largest global Hybrid Packaging Supplier.

Hybrid Packaging Supplier®



Best Elements of
a Manufacturer

+



Distribution
& Logistics

+



Value-Added
Specialty Services



Global Capabilities

Our mission is to improve our customers' net income through packaging products and services. With 60+ locations on four continents and a network of suppliers around the world, we leverage our global scale and capabilities to further our mission – and bring unique value to customers of all sizes at the local level – where it matters.



Specialty Service Divisions

We offer value-added services specialized to best address all your packaging needs.



Brand Strategy
& Design



Quality
Advocacy



Global
Capabilities



Warehousing
& Logistics



Financing &
Consulting



Sustainability
Solutions

Operational Excellence

- ISO 9001 Certified
- 99% on-time delivery for 15+ years
- Dedicated Quality Service Division
- Industry-leading customer thrill scores
- Sustainability and safety focused

Visit our website or call the number below to be contacted by a Packaging Consultant.

BerlinPackaging.com • 1.800.2.BERLIN

